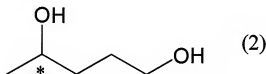


**AMENDMENTS TO THE CLAIMS**

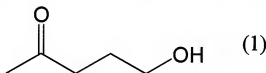
**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (currently amended): A process for producing an optically active 1,4-pentanediol represented by formula (2):



(wherein \* represents an asymmetric carbon atom) comprising asymmetrically reducing 5-hydroxy-2-pentanone represented by formula (1):



by the action of an enzyme source having the activity of stereoselectively reducing the 5-hydroxy-2-pentanone.

2. (canceled).

3. (currently amended): The process according to claim ~~1~~claim-2, wherein the enzyme source is a cultured product of a microorganism belonging to genus Candida, genus Devosia, genus Rhodococcus, or genus Rhodotorula and/or an enzyme obtained from any of these microorganisms.

4. (withdrawn): The process according to claim 2, wherein the enzyme source is a cultured product of a microorganism that has the activity of selectively reducing the compound represented by said formula (1) to produce the S-isomer and that belongs to genus Rhodococcus or genus Rhodotorula and/or an enzyme obtained from any of these microorganisms.

5. (withdrawn): The process according to claim 4, wherein the enzyme source that selectively produces the S-isomer is a cultured product of Rhodococcus sp. or Rhodotorula glutinis and/or an enzyme obtained from any of these microorganisms.

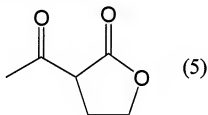
6. (withdrawn): The process according to claim 4, wherein the enzyme source that selectively produces the S-isomer is a cultured product of Escherichia coli HB101 (pNTRS) (FERM BP-08545) or Escherichia coli HB101 (pNTRGG1) (FERM BP-7858) and/or an enzyme obtained from any of these microorganisms.

7. (currently amended): The process according to claim ~~1~~claim 2, wherein the enzyme source is a cultured product of a microorganism that has the activity of selectively reducing the compound represented by said formula (1) to produce the R-isomer and that belongs to genus Candida or genus Devosia and/or an enzyme obtained from any of these microorganisms.

8. (original): The process according to claim 7, wherein the enzyme source that selectively produces the R-isomer is a cultured product of Candida malis, Candida magnoliae, or Devosia riboflavina and/or an enzyme obtained from any of these microorganisms.

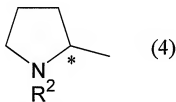
9. (original): The process according to claim 7, wherein the enzyme source that selectively produces the R-isomer is a cultured product of Escherichia coli HB101 (pNTS1G) (FERM BP-5835), Escherichia coli HB101 (pNTFPG) (FERM BP-7117), or Escherichia coli HB101 (pNTDRG1) (FERM BP-08458) and/or an enzyme obtained from any of these microorganisms.

10. (previously presented): The process according to claim 1, wherein 5-hydroxy-2-pentanone represented by said formula (1) produced by hydrolyzing 2-acetyl- $\gamma$ -butyrolactone represented by formula (5):



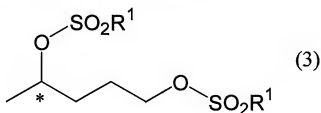
in the presence of an acid is used as a starting material.

11. (withdrawn): A process for producing an optically active 1-substituted 2-methylpyrrolidine represented by formula (4):



(wherein R<sup>2</sup> represents a hydrogen atom, a hydroxyl group, a methoxy group, a benzyloxy group, a substituted or unsubstituted alkyl group having 1 to 12 carbon atoms, a substituted or unsubstituted aralkyl group having 7 to 12 carbon atoms, or a substituted or

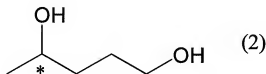
unsubstituted aryl group having 6 to 12 carbon atoms, and \* represents an asymmetric carbon atom) comprising sulfonylating the optically active 1,4-pentanediol represented by formula (2) produced by the process according to claim 1 to convert it to an optically active disulfonate compound represented by formula (3):



(wherein  $R^1$  represents a substituted or unsubstituted alkyl group having 1 to 12 carbon atoms, a substituted or unsubstituted aralkyl group having 7 to 12 carbon atoms, or a substituted or unsubstituted aryl group having 6 to 12 carbon atoms, and \* represents an asymmetric carbon atom), and reacting the compound with an amine.

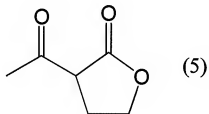
12. (withdrawn): The process according to claim 11, wherein  $R^1$  is a methyl group or a 4-methoxyphenyl group and  $R^2$  is a benzyl group.

13. (new): A process for producing optically active 1,4-pentanediol represented by formula (2):

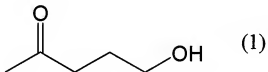


(wherein \* represents an asymmetric carbon atom) comprising: hydrolyzing

2-acetyl- $\gamma$ -butyrolactone represented by formula (5):



in the presence of an acid into 5-hydroxy-2-pentanone represented by formula (1):



; and

asymmetrically reducing 5-hydroxy-2-pentanone represented by said formula (1) to optically active 1,4-pentanediol represented by said formula (2).